

Knowledge Base Article

Product Group: Multilog On-Line Systems

Product: WMx

Version: N/A

Abstract

The **WMx** is an SKF Multilog On-Line System that provides early fault detection and prevention when used in conjunction with SKF @ptitude Analyst. This article outlines the process and utilities that are required to set up a WMx device with @ptitude Analyst.

Overview

The WMx is a compact, eight-channel data acquisition device that communicates with @ptitude Analyst using an existing wireless network. [Figure 1] The **SKF @ptitude WMx Service** facilitates the communication between the WMx device and the software.

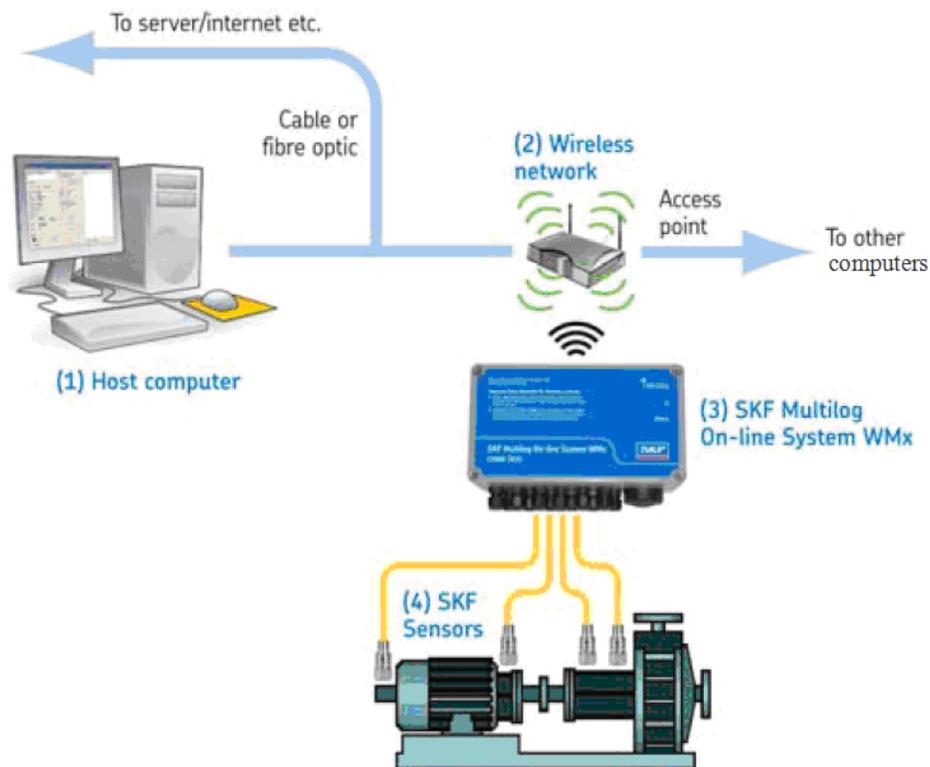


Figure 1. These devices communicate with SKF @ptitude Analyst over a wireless network using SKF @ptitude WMx Service.

The steps listed below outline the procedure and describe the utilities required in setting up a WMx device:

Setting up WMx Hardware

1. Install the WMx hardware.
 - Refer to the WMx hardware user manual for details.

Setting up SKF @ptitude Analyst

1. Install SKF @ptitude Analyst 2012 or later from the DVD.
2. Please use either **7400** or **7300 license keys** to access and enable WMx functionality.

Setting up SKF Transaction Service

1. Once @ptitude Analyst has been installed and the database connection has been set, go to **Start > All Programs > SKF @ptitude Monitoring Suite > Admin Tools > SKF @ptitude Configuration Tool**.
2. Select **SKF @ptitude Transaction Service**. [Figure 2] Next, select the service from the list in the right pane, and then click **Start** to start the Transaction Service. If there are no services listed, click **Add** to create a new service.

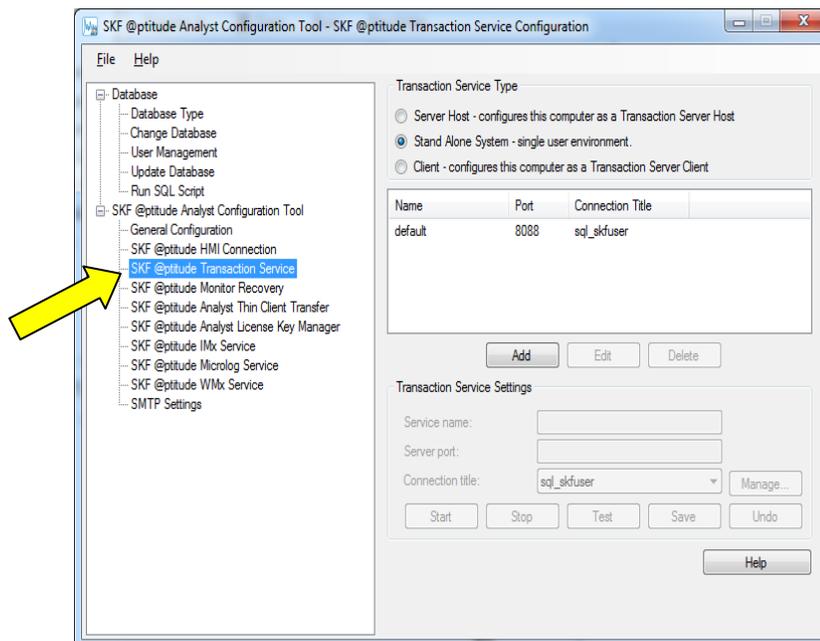


Figure 2. SKF @ptitude Transaction Service

Setting up the WMx Service

1. Set up a **wireless network** for the service to communicate through.
2. In SKF @ptitude Configuration Tool, select **SKF @ptitude WMx Service**. [Figure 3]

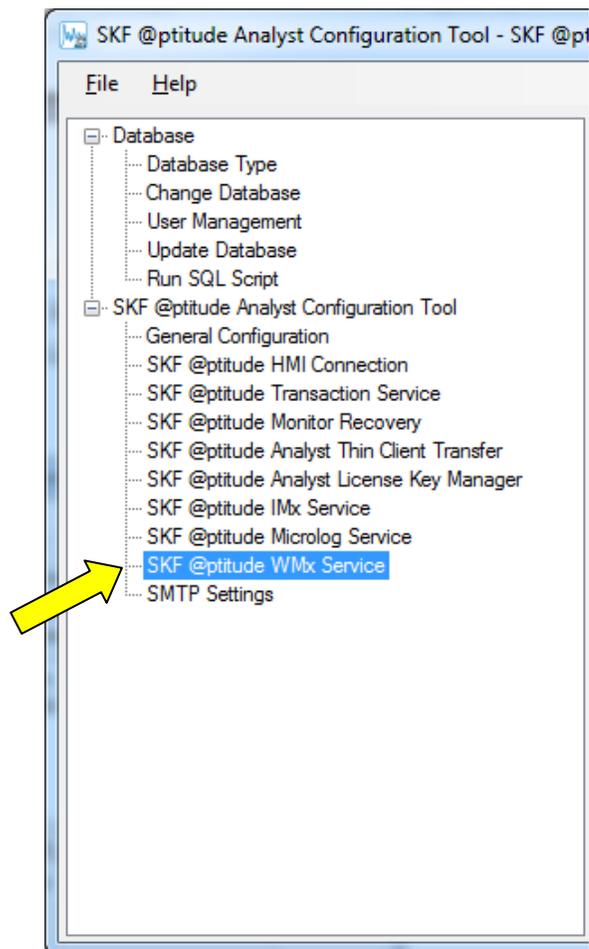


Figure 3. SKF @ptitude WMx Service

3. A small message box will be displayed. [Figure 4] This message states the legacy data from Wireless DB Builder can be imported using the **skfWMxConversionUtility.exe** utility. The message also specifies the location where this utility can be found.
4. The same message also informs the user that the port for the WMx service must not be blocked by firewall software.

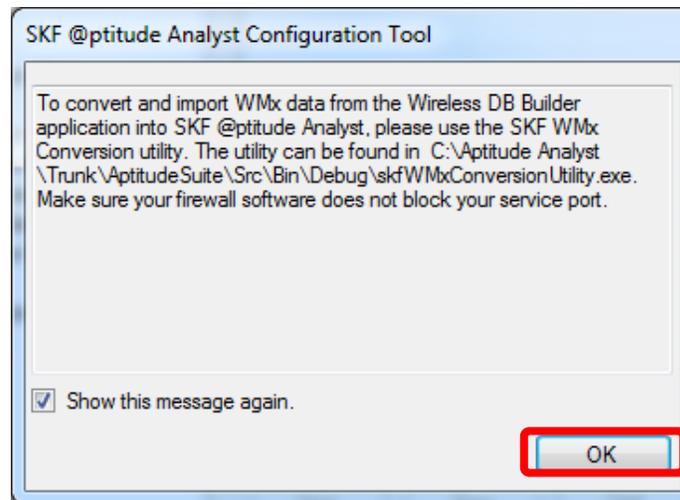


Figure 4. WMx Service message

5. Uncheck **Show this message again** to avoid seeing the message each time SKF @ptitude WMx Service is visited.
6. Click **OK** to continue.
7. Only **one** WMx Service can be created in @ptitude Analyst. To create a new service, click **Add**. [Figure 5]

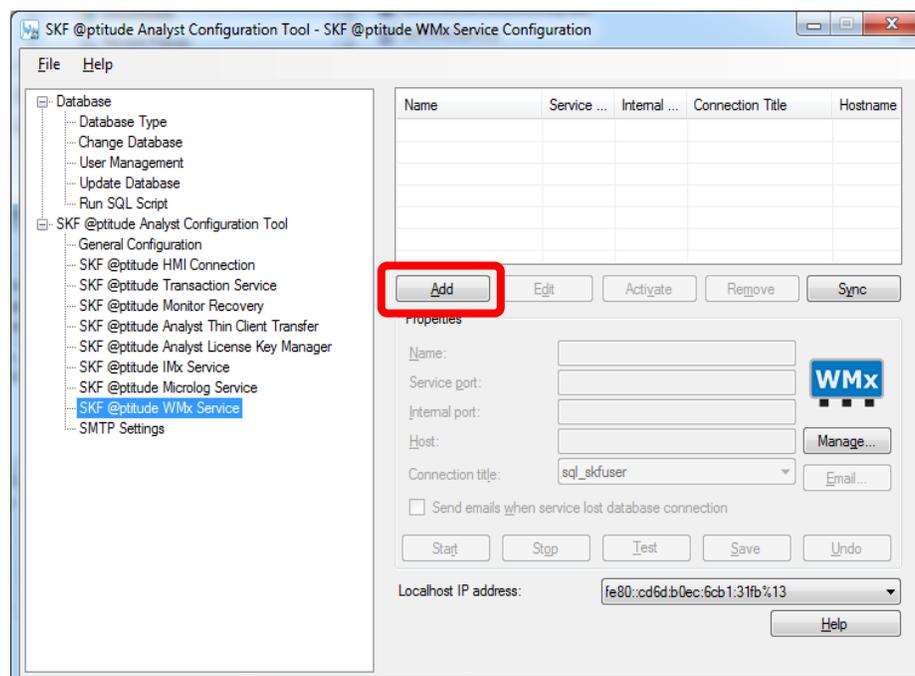


Figure 5. SKF @ptitude WMx Service Configuration

8. The new service details will appear in the **Properties** section. [Figure 6]

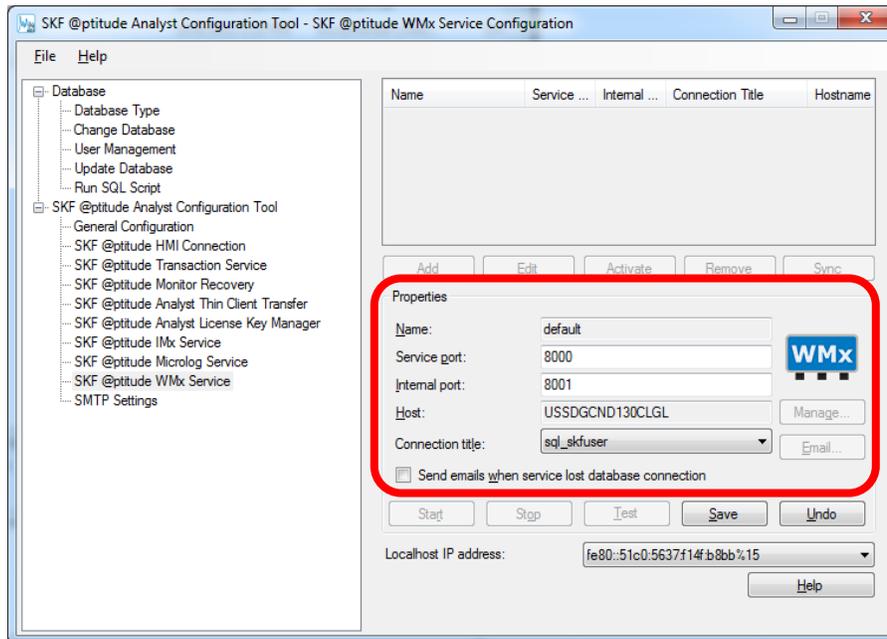


Figure 6. Creating a new service

9. **Name** and **Host** are set to default values and cannot be changed. Name is set as [default] and Host is set as the PC name.
10. **Service port** is set as 8000 by default, and **Internal port** is set as 8001. These values can be changed.
 - Ensure that the service port assigned to the service is not blocked by firewall software.
 - If these port values are changed, the same port values must also be changed in the WMx using WMx Wireless Configuration Utility.
11. Select the **Connection title**. This is the database the WMx service will communicate with.
12. Localhost IP address is just there for reference and regardless of what is chosen there, the service will listen across all appropriate TCP/IP.
13. To revert back to the default settings, click **Undo**. Otherwise, to save the changes and create the service using these settings, click **Save**.

14. After a few moments of processing, a message will be displayed confirming that the service is starting. [Figure 7] Click **OK** to continue.

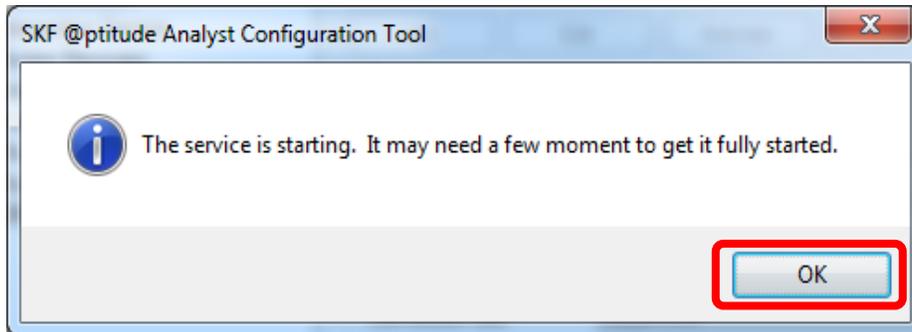


Figure 7. Service is starting

15. Once the service is created and started, it will be visible in the list. [Figure 8].

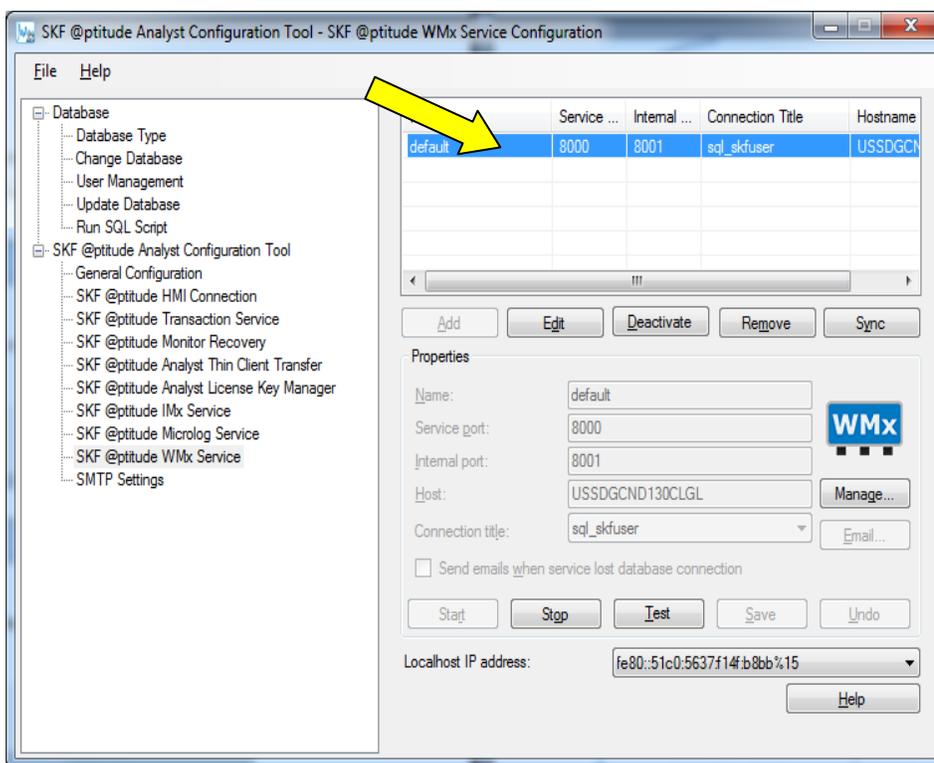


Figure 8. List of WMx Services

At this point, the buttons displayed underneath the services list can be used for the following functions:

- **Stop** – Stop the service.
- **Edit** – Edit the settings of a service. To edit, select a service from the list and click Edit. After making the necessary changes, click **Save** or else click **Undo** to revert those changes.
- **Deactivate/Activate** – Deactivate or activate a service. Deactivating a service will unregister the service from Windows Services; however, the details of the service will still exist in @ptitude Analyst. After deactivating a service, the Deactivate button will be replaced by an Activate button. Activating a service will register the service again in Windows Services.
- **Remove** – Remove a service from Windows Services and @ptitude Analyst.

16. Before leaving this section, ensure that the WMx service is running.

Unblocking Windows Built-In Firewall Settings

Note: This will require administration rights on the computer.

The information below is valid for the Built-In firewall of the Windows version only. To enable the ports on a different firewall, check the documentation of the firewall in use.

For Windows XP

1. Go to **Start > Control Panel**.
2. Double-click **Windows Firewall**.
3. Select the **Exceptions** tab.
4. Click the **Add Port** button.
5. Enter a name in the **Name** field.
6. Enter a number in the **Port Number** field. Make sure this is the same number which was chosen in the SKF @ptitude Configuration Tool for SKF WMx Service-Service Port.
7. Select **TCP**.
8. Click **OK**.

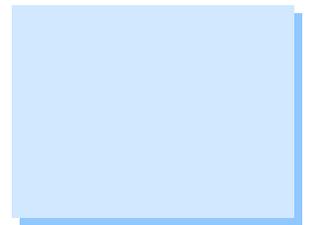
For Windows Vista

1. Go to **Start > Control Panel**.
2. Double-click **Windows Firewall**.
3. Select the **Exceptions** tab.
4. Click the **Add Port** button.
5. Enter a name in the **Name** field.
6. Enter a number in the **Port Number** field. Make sure this is the same number which was chosen in the SKF @ptitude Configuration Tool for SKF WMx Service-Service Port.
7. Click **TCP**.

8. Click **OK**.

For Windows 7

1. Go to **Start > Control Panel**.
2. Click **System and Security**.
3. Click **Windows Firewall**.
4. Click **Advanced Settings**.
5. Click **Inbound Rules** and select **New Rule**.
6. Select **Port** and click **Next**.
7. Select **TCP and Specific Local Ports**. For Port number, enter the same number which was chosen in the SKF @ptitude Configuration Tool for SKF WMx Service-Service Port.
8. Click **Next**.
9. Select **Allow the Connection**.
10. Click **Next**.
11. **Domain, Private, and Public** profile are selected. Do not change this.
12. Click **Next**.
13. Enter a **Name** and **Description** of the rule (i.e. 'WMx service port rule').
14. Click **Finish**.

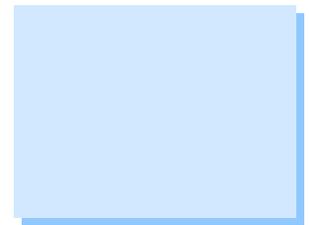


Importing Legacy Data

1. Go to the location where @ptitude Analyst is installed and launch the SKF WMx Conversion Utility.
 - **Windows XP** - The default installation location is 'C:\Program Files\SKF-RS\SKF @ptitude Analyst'
 - **Windows 7** - The default installation location is 'C:\Program Files(x86)\SKF-RS\SKF @ptitude Analyst'

Note: If the default installation directories are not used, go to the directory where the application is installed.

 - Select the WMx Conversion Utility: 
2. Login using SKF @ptitude Analyst credentials. **Only users with import access privileges will be allowed to import data.**
3. Select the **Destination hierarchy** in @ptitude Analyst where the data will be imported to. Next, select the **Import source**, which is the DB Builder Access database where the data will be imported from. [Figure 9]
4. The option **Save processing details to WMxConversionUtility.log** is checked by default. This should not be changed.
5. Click **Next**.



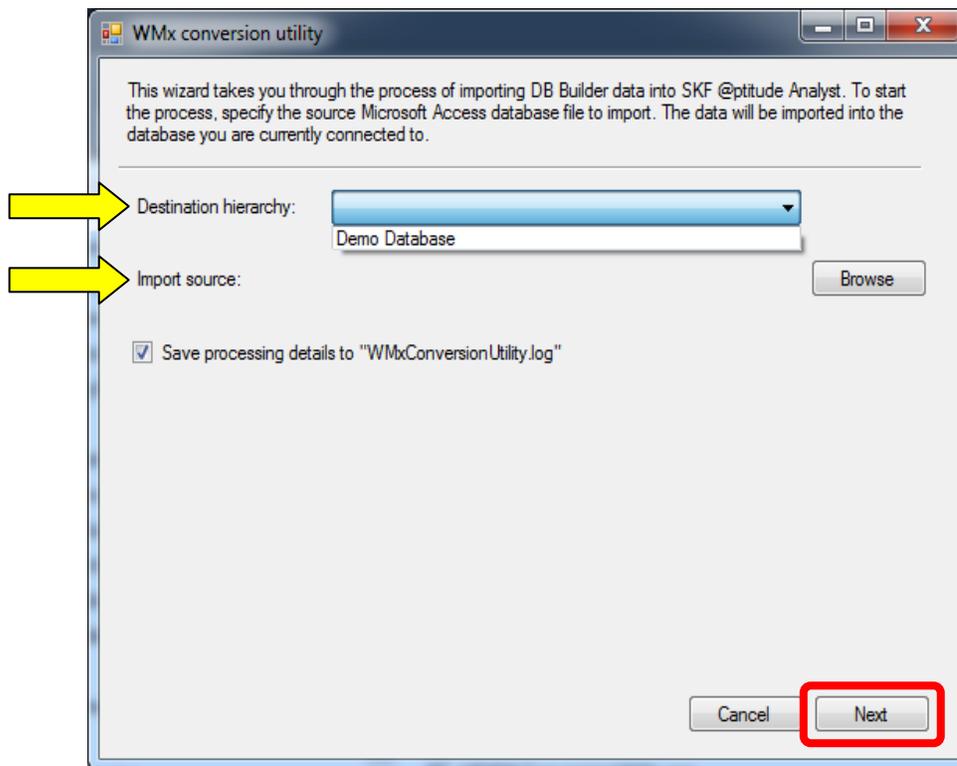


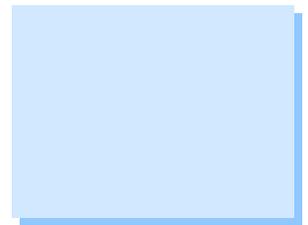
Figure 9. Importing legacy data

Note: Only databases with version 12 or greater can be imported. If a database is of an older version, the database must first be upgraded using DB Builder V2.1.1.

6. On the import status screen, click **Next**.
7. Allow the import to finish, or click **Cancel** to stop the import process.
8. Once the import is complete, an import summary screen will be displayed. Click **Finish**.
9. To view the details from the import, login to @ptitude Analyst and expand the hierarchy where the POINTs were imported. The DB Builder POINT setup has been converted to Set/Machines and POINTs under this hierarchy.

Setting up the Network Details for the WMx Device

1. The **WMx Wireless Configuration Utility** will be required in order to connect a device and change its network/wireless settings.
 - WMx Wireless Configuration Utility does not require a connection to a wireless network. Note that this software is installed as part of the standard @ptitude Analyst installation.
 - The WMx device should be connected when installing the utility on a Windows XP machine. If the device is not connected when the utility is installed, a **New Hardware Dialog** will be displayed when the device is connected for the first time. When the New Hardware dialog appears, select the device driver from the DVD, found at location - **Tools\WMx\WMx USB Drivers**.
 - The utility can be installed/found in a few different ways:
 - As part of the @ptitude Analyst 2012 installation - The utility can be found under **Start > SKF @ptitude Monitoring Suite > Admin Tools**.
 - Using the @ptitude software DVD - Even for those users who do not install the full @ptitude Analyst application, the utility itself can still be installed from the DVD. Under **Tools\WMx\SKF WMx Wireless Configuration Utility**, select the package **SKF WMx Wireless Configuration Utility (x64)** for a 64-bit machine or else **SKF WMx Wireless Configuration Utility** for a 32-bit machine.
 - Using the hardware CD that was shipped with the device.
 - By downloading the installation file from the SKF website.
2. The installation will create a shortcut to the utility on the desktop. Launch the Wireless Configuration Utility by clicking on this shortcut.
3. Choose the configuration under **Configuration Options**. [Figure 10]
 - If connecting a WMx device, use a USB cable and select **Configure using USB cable**.
 - If connecting a WVT device, use a serial cable and select **Configure using serial cable**.



- Next, enter the **TCP port**. This will be the same port number that was configured for the WMx Service. The default port value is 8000. Click **Start** when ready.

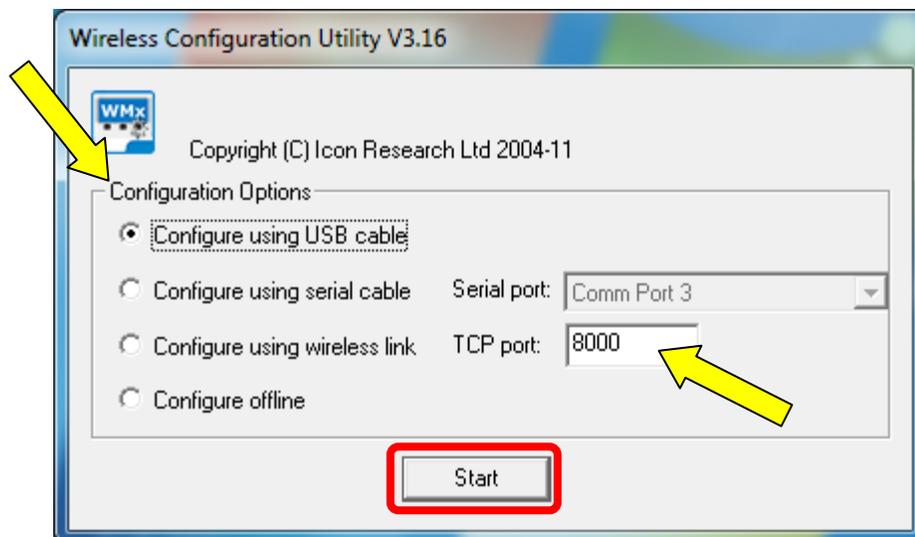


Figure 10. Wireless Configuration Utility

- Once the device is connected, it will be displayed in the Configuration Utility under **Wireless Devices Detected**. [Figure 11] The device name can be changed from within the utility.

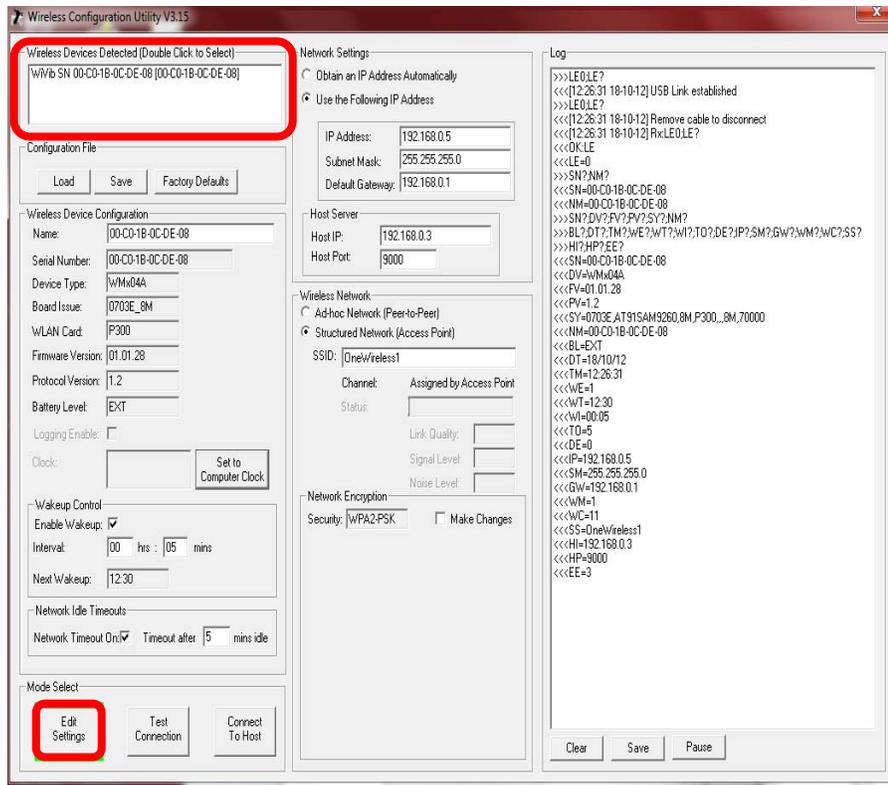


Figure 11. Wireless devices detected

6. To set up a device to connect with WMx Service, the following settings must be configured:

Network Settings:

- Select **Obtain an IP Address Automatically** if a dynamic IP address will be used.
- If a static IP address is being used, select **Use the following IP Address**, and then enter the **IP Address** that is to be used for the WMx unit. It is recommended that you use a static IP address to optimize battery life by reducing connection time.
- Under Host Server, enter the **Host IP** address and **Host Port** of the host computer. The host computer running the WMx Service must be assigned a static IP address. Host Port should be the WMx service port number.

Wireless Network:

- If a structured wireless network is being used, select the **Structured Network (Access Point)** option button. It is recommended that a structured wireless network be used. If a structured network has been chosen, enter the wireless network name in **SSID**.
- If a peer-to-peer wireless network is being used, select the **Ad-hoc Network (Peer-to-Peer)** option button.
- Select the network encryption type under **Security**. This will allow the configuring of data encryption, which encodes the data passing to and from the WMx.
- Check the option **Make Changes** only when the WMx device is being setup for the first time, or when the device is supposed to connect to a new Access Point configuration.
- For making changes, select the **Security** as set up for the Access Point: Disabled; WEP 64 bit; WEP 128 bit; WPA-PSK; or WPA2-PSK. WEP is the least secure, while WPA2/PSK is the strongest encryption protocol. The selection of the encryption is dictated by the Access Point which the WMx is being set up to communicate with.
- After selecting the security type, enter the password key. For security type WPA/PSK and WPA2/PSK, simply enter a pass phrase. For security type WEP, select 64/128 bit encryption from the WEP Security dropdown. Four password keys are to be entered in Key 1 through Key 4. Fill these fields with the same password key. [Figure 12]

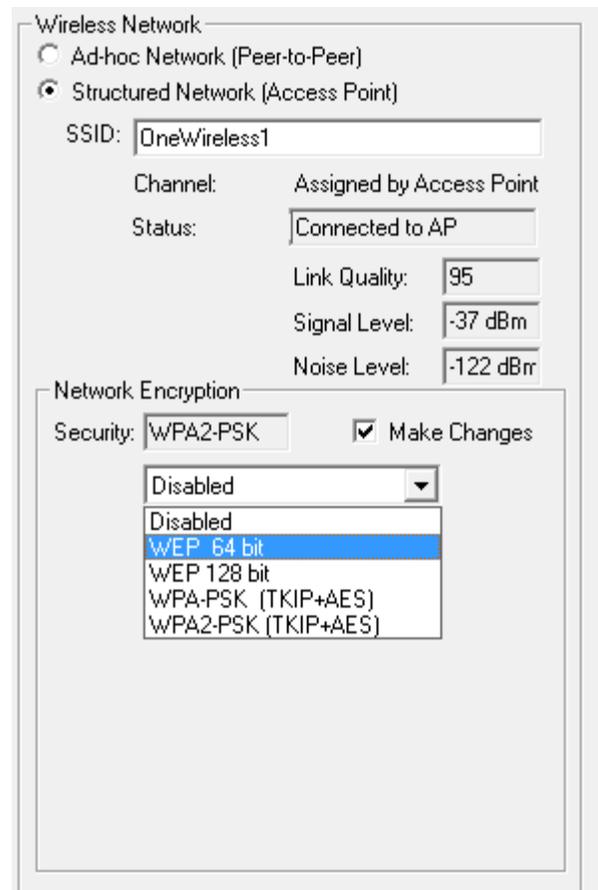


Figure 12. Wireless network settings

- Select **Open** or **Shared** authentication as per the setting in the Access Point. It is recommended that the authentication in the Access Point is set up as Open, because it is more secure.
- The settings are now complete. Click the **Connect to Host** button. [Figure 13]

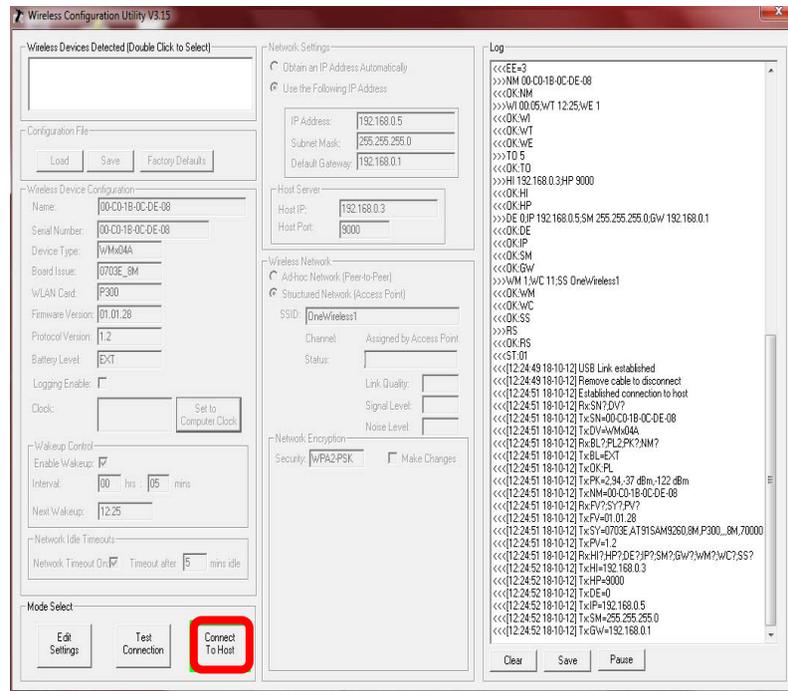


Figure 13. Connect to Host

7. A connection log will be displayed in the right pane. This log will display the connection status to the wireless network and the host. **Ensure that the WMx Service is started on the host machine.** The log mentions a 'Remove cable to disconnect' message. Please ignore this message. Do not remove the USB/Serial cable. If the cable is removed, the Utility will no longer be connected.
8. If connection to the host was successful, this will be indicated in the log by an 'Established connection to host' message. [Figure 14] This message relays that the device has connected to the WMx service. At this point the USB/Serial cable can be removed.

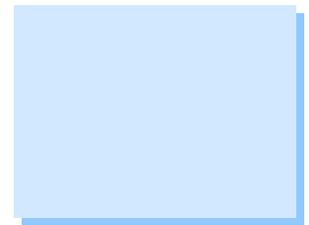
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<<<[12:24:49 18-10-12] USB Link established
<<<[12:24:49 18-10-12] Remove cable to disconnect
<<<[12:24:51 18-10-12] Established connection to host
<<<[12:24:51 18-10-12] Rx:SN?:DV?
<<<[12:24:51 18-10-12] Tx:SN=00-C0-1B-0C-DE-08
<<<[12:24:51 18-10-12] Tx:DV=WMx04A
<<<[12:24:51 18-10-12] Rx:BL?:PL2;PK?:NM?
<<<[12:24:51 18-10-12] Tx:BL=EXT
<<<[12:24:51 18-10-12] Tx:OK:PL
<<<[12:24:51 18-10-12] Tx:PK=2,94,-37 dBm,-122 dBm
<<<[12:24:51 18-10-12] Tx:NM=00-C0-1B-0C-DE-08
<<<[12:24:51 18-10-12] Rx:FV?:SY?:PV?
<<<[12:24:51 18-10-12] Tx:FV=01.01.28
<<<[12:24:51 18-10-12] Tx:SY=0703E,AT91SAM9260,8M,P300,,,8M,70000
<<<[12:24:51 18-10-12] Tx:PV=1.2
<<<[12:24:51 18-10-12] Rx:HI?:HP?:DE?:IP?:SM?:GW?:WM?:WC?:SS?
<<<[12:24:52 18-10-12] Tx:HI=192.168.0.3
<<<[12:24:52 18-10-12] Tx:HP=9000
<<<[12:24:52 18-10-12] Tx:DE=0
<<<[12:24:52 18-10-12] Tx:IP=192.168.0.5
<<<[12:24:52 18-10-12] Tx:SM=255.255.255.0
<<<[12:24:52 18-10-12] Tx:GW=192.168.0.1

```

Figure 14. Established connection to host

9. For any further details about WMx Wireless Configuration utility, refer to the WMx Hardware manual in the WMx hardware CD.



WMx Devices in @ptitude Analyst

1. When devices are connected to the WMx Service, they can be seen in @ptitude Analyst.
2. To view these devices, go to **View > WMx Device...**
3. A dialog will be displayed with a list of available WMx devices. [Figure 15]

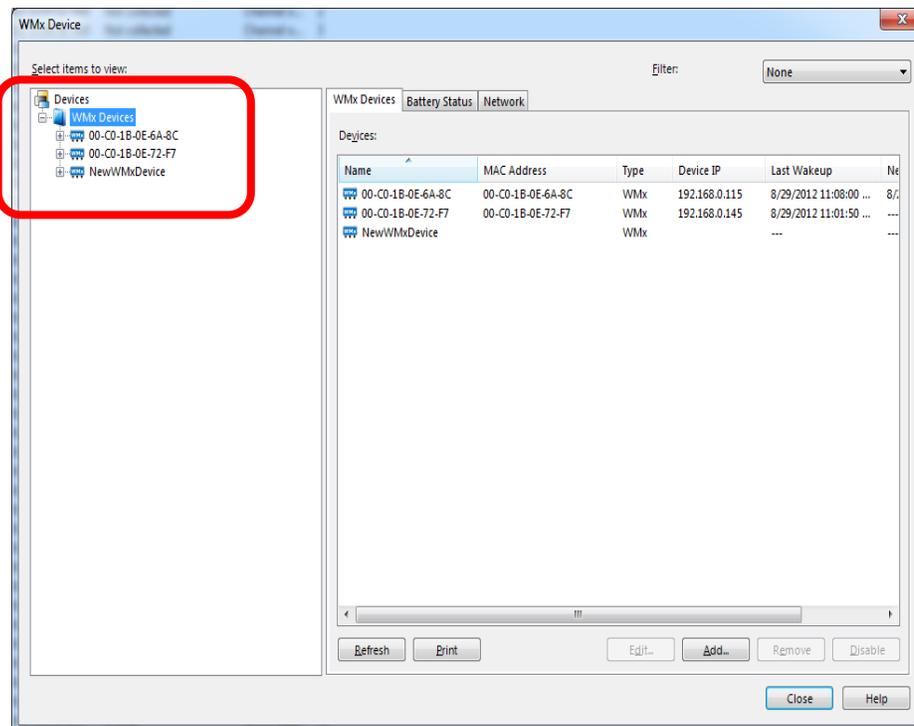


Figure 15. WMx devices in @ptitude Analyst

Changing Device Details in Analyst

1. Select a WMx device from the list, and then click **Edit**. The Device Properties window [Figure 16] will be displayed. This window provides the settings of the selected device.

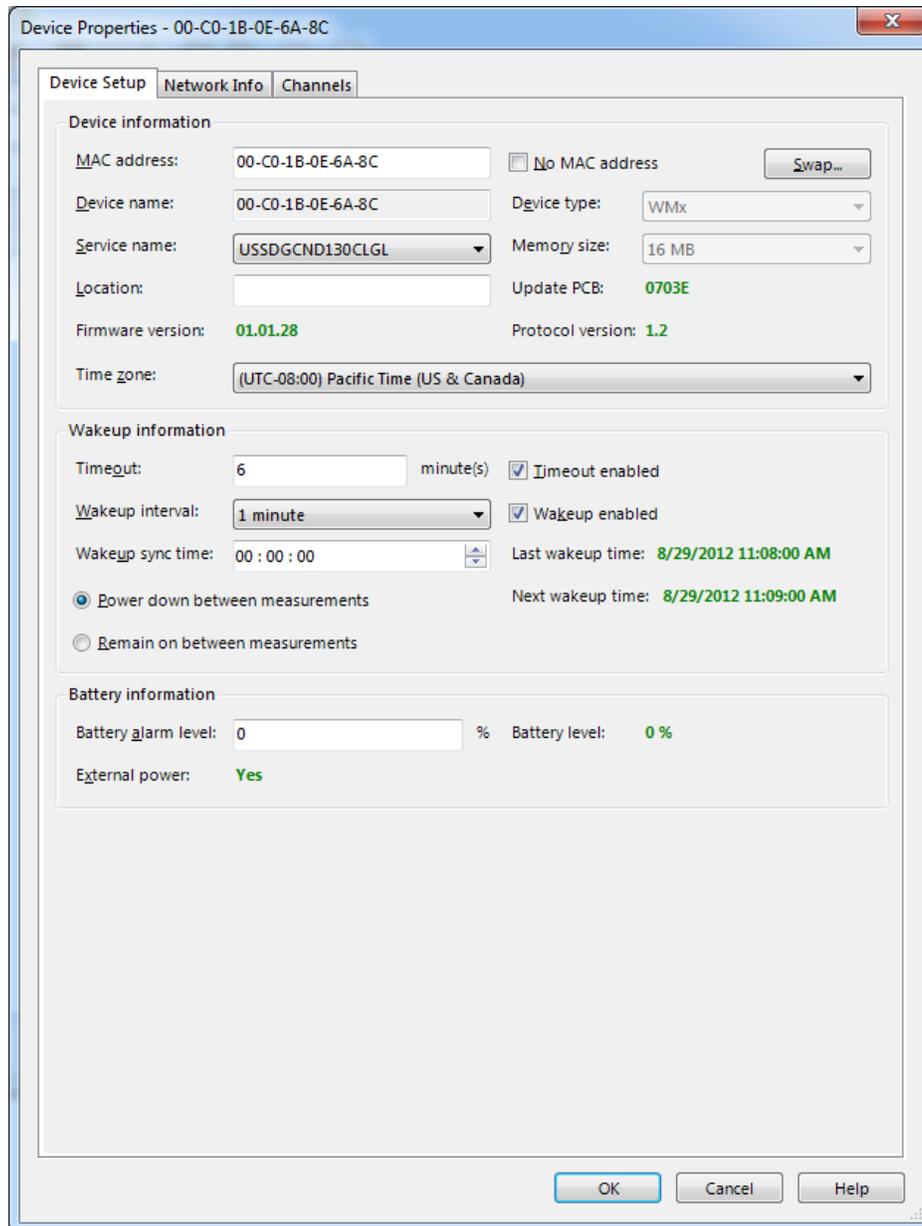


Figure 16. Device Properties window

2. Make the appropriate changes to the device and/or channel settings by selecting the appropriate tabs. When done, click **OK**.
 - Reference the user manual for more details on the WMx Device Properties settings. The manual (UM_AA_OLS_<4 digit/character language code>) can be found on the DVD under **UserManuals/<Language folder>**.

Creating WMx POINTs in Analyst

WMx POINTs can be created in @ptitude Analyst.

1. Go to **Insert > New POINT**.
2. In the DAD/POINT Type Selection window [Figure 17], choose **WMx** as the **DAD type**. Select the **Application**, **Sensor type**, and **Units** as appropriate for the WMx POINT type. Click **OK** when done.

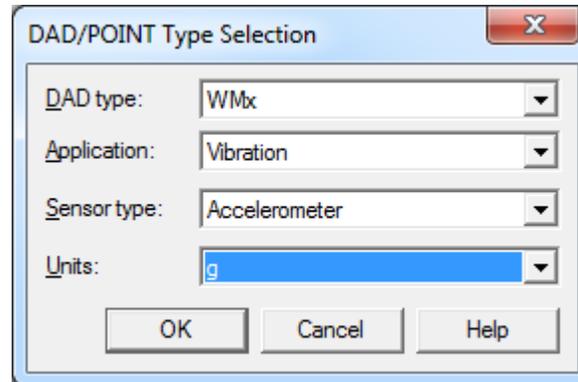


Figure 17. DAD/POINT Type Selection

3. The POINT Properties dialog will be displayed. [Figure 18] The **General** tab will contain the identity details of the POINT type. Set the **Name** and **Description** as desired.

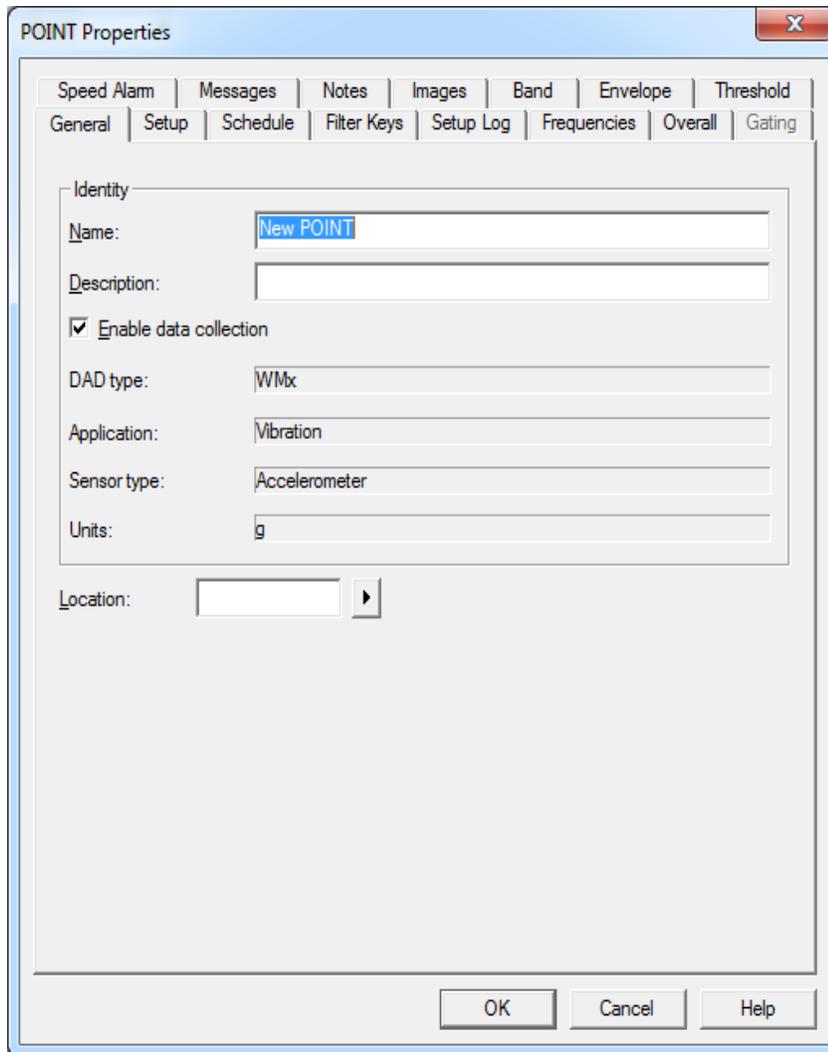


Figure 18. POINT Properties window

4. Next, go to the **Setup** tab and select the appropriate **Device** and **Channel name**. [Figure 19] Change any other setup details as desired.
 - Reference the user manual for more details on POINT setup. The manual (UM_AA_OLS_<4 digit/character language code>) can be found on the DVD under **UserManuals/<Language folder>**.

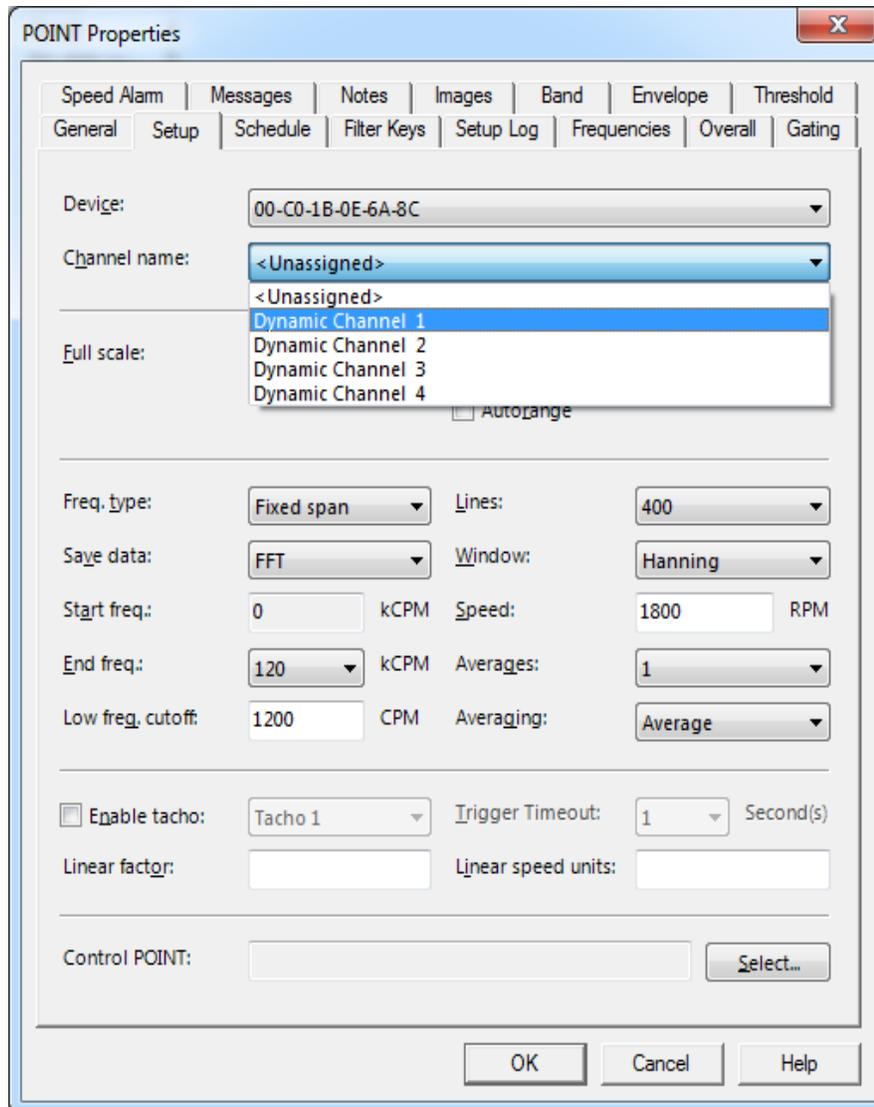


Figure 19. POINT Properties setup

5. Click **OK** after the desired changes are made. The POINT is now assigned to the device and will begin collecting data according to the wakeup interval of the selected WMx/WVT device.
6. WMx devices also support diagnostic POINTs. The POINT types which come under this category are: Battery level; Noise level; Signal level; and Signal quality. Only battery level POINTs are also supported by WVT devices.

Troubleshooting

Problem #1	The device is not connecting to the WMx Service. It is not showing up in @ptitude Analyst either.
Solution	Verify the IP Address of the computer where the WMx Service has been installed. This should be the same as the Host IP Address that was set up in the WMx device in WMx Wireless Configuration Utility. If these IP addresses do not match, change the Host IP and Host Port configuration in the WMx device to match the IP address of the Host machine and WMx service port.
	Verify the Service Port for the WMx Service. This should be the same as the Host Port that was set up for that device in WMx Wireless Configuration Utility. If the ports do not match, change the configuration of the WMx device.
	Verify the wireless connection is configured correctly and that the connectivity is good on the host machine as well as on the WMx device.
	Ensure that the WMx Service port not being blocked by any firewall software.
	Check LEDs on the WMx board to determine if the WMx sees the network and the Host.

Problem #2	The device is sending data but the measurements take a while to show up in @ptitude Analyst.
Solution	<p>If the measurements are showing up late, the WMx Service is receiving measurements at a higher rate than which they can be processed.</p> <p>Try setting the wakeup interval for the WMx devices so that they collect at different wakeup intervals, preferably at an interval greater than five (5) minutes. This can be set up by editing the WMx's Wake Up Interval.</p> <p>For systems with a large number of WMx devices, it is recommended to stagger the synchronization of each unit by a few minutes. This prevents all of the WMx units from waking up together and trying to connect to the host computer simultaneously. Battery life is also optimized if WMx units are not waiting to be serviced by the host. For this, wake-up interval times can be offset by editing the WMx's Wake Up Sync Time value on SKF @ptitude Analyst > View > WMx Device... > Edit Device Properties dialog.</p>

	<p>A few examples:</p> <ul style="list-style-type: none"> • If Wakeup Sync Time is set to a time of 13:15:00 (HH:MM:SS) and the Wakeup interval is set to two hours, and the time now is 23:55 pm, then the WMx unit will wake up at 13:15 and every two hours thereafter (13:15, 15:15, 17:15, etc..). • If Wakeup Sync Time is set to a time of 13:15:00 (HH:MM:SS) and Wakeup interval is set to two hours, and the time now is 17:00, then the WMx unit will wake up at 17:15 and every two hours thereafter (17:15, 19:15, 21:15 etc.). • If Wakeup Sync Time is set to a time of 01:00:00 (HH:MM:SS) and Wakeup interval is set to 6 hours, and the time is now 23:55 pm, then the WMx will wakeup at 01:00 and every six hours thereafter(01:00, 07:00, 13:00 etc.).
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Problem #3	The SKF @ptitude WMx Service is showing high memory usage in the Task Manager.
Solution	Conduct the same steps as outlined in Problem #2 above.

Problem #4	The device is not collecting data for POINTs.
Solution	<p>Make a minor change to the POINT setup and then check the log file located in <Shared App Data Path>/SKF/@ptitude Analyst/Log/WMx. The file name will be of the format YYYY_MMM_DD. The log file will contain the recently downloaded XML configuration. If there is a configuration error recorded after it, fix the issue in the POINT setup.</p> <p>Shared App Data Path on Windows XP: C:\Documents and Settings\All Users\Application Data\</p> <p>Shared App Data Path on Windows 7: C:\ProgramData\</p> <p>If there are no configuration errors, check the WMx Non-Collection preferences. If the collection schedule for the anticipated non-collection event is set to Never, try changing it to Always.</p> <p>For example, if BOV out of range is expected in the measurements, and the preference is set to Always, then the</p>

	<p>non-collection measurement would always be stored. If the preference is set to Onchange, it would only be stored when it first occurs and when the BOV condition is cleared. If the preference is set to Never, then the non-collection measurement would never be stored.</p> <p>Note: The default values of these preferences are set to Always, which is also the recommended selection.</p>
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Problem #5	POINTS are collecting 'BOV out of range' non-collection measurements.
Solution	Check the BOV value for the POINT by going to Plots > All Plots > BOV or Gap plot . Compare this value with the BOV lower and upper range for the selected channel under Device Properties > Channels tab. The recommended action is to fix the sensor.

Problem #6	POINTS are collecting 'Outside of threshold range' non-collection measurements.
Solution	Check the threshold ranges in POINT Properties > Threshold tab. Check the overall value of the reference point and compare it with the active range. Take appropriate action based on this information.

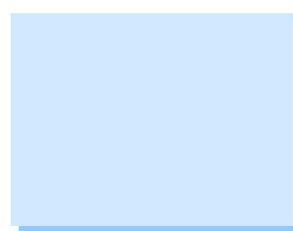
Problem #7	The device is returning trigger timeouts for POINTs.
Solution	<p>This happens when the WMx point is collecting speed based on the selected tacho channel.</p> <p>To review these settings, go to POINT Properties > Setup tab. If speed does not need to be collected, then uncheck Enable Tacho. Otherwise, to collect Speed, ensure Enable Tacho is checked and a Tacho channel on which speed must be collected is selected. Also, ensure that the physical WMx device is set up to collect a non-zero speed for that channel. If the physical setup is not correct, then 'Trigger Timeout' non-collection measurements would be collected.</p> <p>Once the setup is correct, the measurements record the speed as the speed which is collected on the tacho channel. If Enable Tacho is unchecked, then the speed of the point which is present on POINT properties > Setup tab is stored with the measurements.</p>

Problem #8	The device is returning channel overload for POINTs.
Solution	The input is exceeding the maximum input voltage range (e.g. when a fixed range is set for dynamic channels or when there is an open circuit at the DC input terminals, an overload event may occur). To start bringing in measurements, either try increasing the full scale range to a more appropriate level in the POINT setup, or turning on Autorange in POINT Properties > Setup tab to resolve the overload.

Problem #9	@ptitude Analyst WMx Device dialog will not allow me to change the name of the device.
Solution	The device name for WMx/WVT devices can only be changed from within WMx Wireless Configuration Utility. When the name is changed in the utility, @ptitude Analyst is automatically updated with this new information upon the next time the WMx connects.

Problem #10	A WMx device is not functioning correctly and needs to be replaced. How can I retain the POINTs and channel configurations when replacing the hardware?
Solution	Connect the new device to SKF @ptitude WMx Service. Once the new device shows up in @ptitude Analyst, go to the old device, open Device Properties and click Swap . Next, select the new device from the list and click OK . Save the device properties. The new device will now be assigned to the same set of POINTs and channel configuration as the old device.

Problem #11	How can I see the trend of WMx device diagnostic POINTs? Is there a way to track the battery level?
Solution	WMx diagnostic POINTs can be created in @ptitude Analyst by selecting WMx > General > Battery level/ Noise level/ Signal level/ Signal Quality . Assign the appropriate device to these POINTs. Each WMx device should have only one Battery level, one Noise level, one Signal level and one Signal Quality POINT. These diagnostic POINTs are collected together with each wakeup or measurement cycle, and can be trended in @ptitude Analyst. Please use the trend plot to view the trend of this diagnostic information.



Problem #12	Can I create a WMx device in @ptitude Analyst even when the physical device is not available?
Solution	<p>Yes, @ptitude Analyst 2012 provides a capability to create new WMx/WVT devices in Analyst.</p> <ol style="list-style-type: none"> 1. Please go to View > WMx Devices menu item. 2. A dialog appears with a tree structure on the left side. Click on the WMx devices node in the tree structure. 3. Three tabs open up on the right side. Click on the tab named 'WMx Devices'. 4. Click on the Add button. 5. A new device properties dialog is displayed. Go to the Devices tab. 6. If the Mac address of the physical WMx device is known, please uncheck 'No Mac address' checkbox and enter the Mac address. Otherwise, leave the 'No Mac address' checkbox checked.

Problem #13	Where can we find the Download and Upload XML?
Solution	<p>Download and Upload XML are not stored by default. This functionality should only be turned on for debugging purposes. For enabling this, please set the following keys skfWMxService.exe.config:</p> <p>KeepDownloadsWeeks = value greater than 0 (for example : 2) KeepUploadsWeeks = value greater than 0 (for example : 2)</p> <p>(For Windows XP - skfWMxService.exe.config can be found at 'C:\Program Files\SKF-RS\SKF @ptitude Analyst') (For Windows 7 – skfWMxService.exe.config can be found at 'C:\Program Files (x86)\SKF-RS\SKF @ptitude Analyst')</p>

Problem #14	Where can I find the log files for WMx service?
Solution	<p>There are two sets of log files maintained for WMx service. These can be found at <Shared App Data Path>\SKF\@ptitude Analyst\Log\WMx\. The file names for these files are in this format:</p> <ul style="list-style-type: none"> • YYYY_MMM_DD.log • default YYYYMMDDHHMMSS.log – This log file is enabled by default. To disable, set the 'WriteCommsLogFile' key to false in the skfWMxService.exe.config.

	(For Windows XP - skfWMxService.exe.config can be found at 'C:\Program Files\SKF-RS\SKF @ptitude Analyst')
	(For Windows 7 - skfWMxService.exe.config can be found at 'C:\Program Files (x86)\SKF-RS\SKF @ptitude Analyst')

Problem #15	The WMx service displays high memory usage? Is there a way to fix this?
Solution	Please refer the 'WMx Service Memory Watch' section in the user manual. The manual (UM_AA_OLS_<4 digit/character language code>) can be found on the DVD under UserManuals/<Language folder>

For further assistance, please contact the Technical Support Group by phone at 1-800-523-7514 option 8, or by email at TSG-Americas@skf.com.

